

Name _____

Building Carbohydrates

A. Key

Carbon

- Black
- 4 bonds

Oxygen

- Red
- 2 bonds

Hydrogen

- White
- One bond

Bonds

- Gray “pipes”

Bonding sites

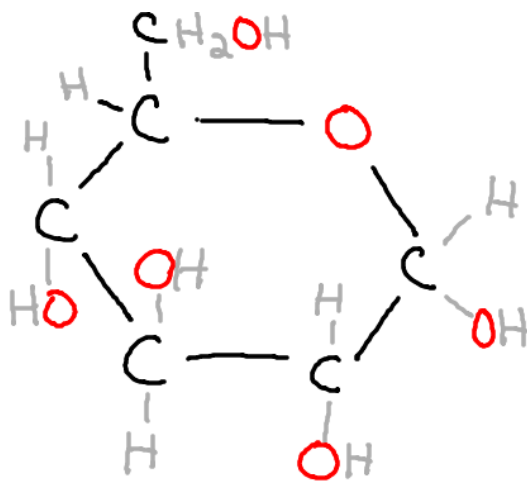
- “Spikes”

Note:

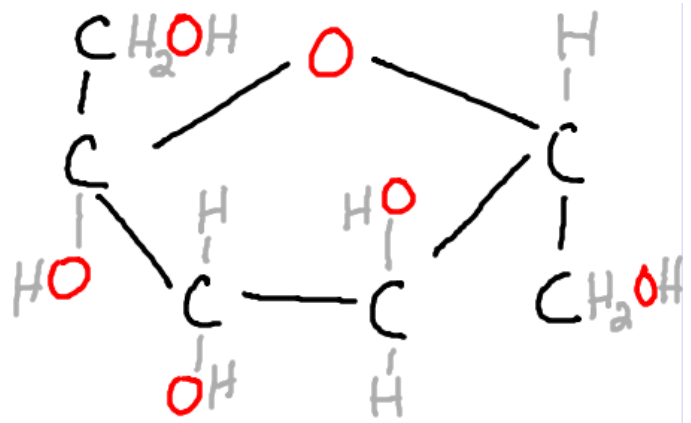
- All bonding sites must be attached to another atom
- “H” and “OH” groups flip-flop around neighboring Carbons due to polarity

B. Building Monosaccharides

Glucose: $C_6H_{12}O_6$



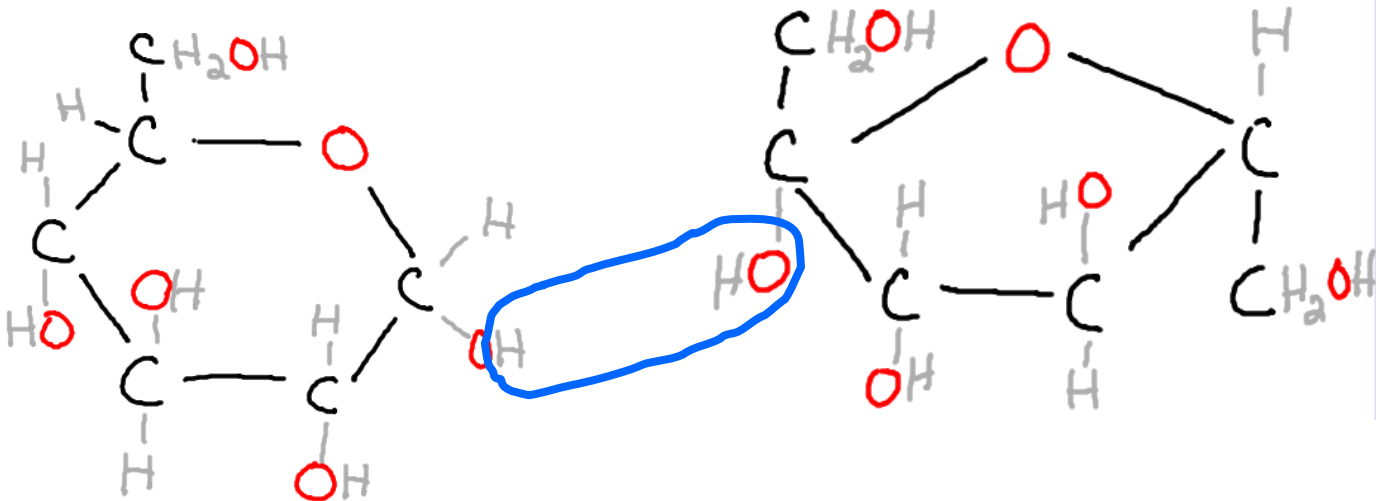
Fructose: $C_6H_{12}O_6$



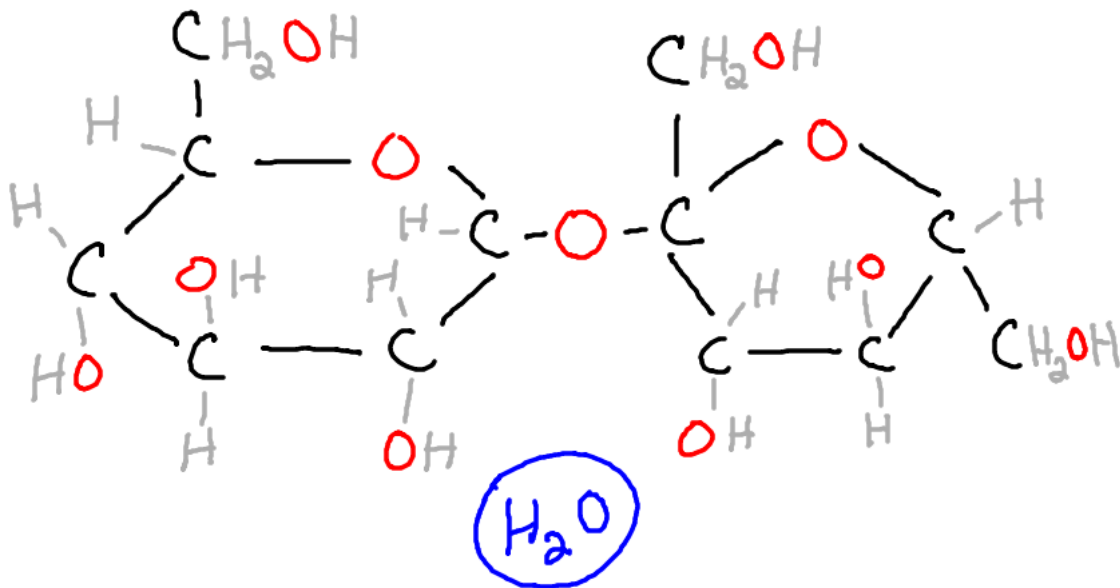
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C. Building Disaccharides

Glucose + Fructose



Sucrose: $C_{12}H_{22}O_{11}$



D. Polysaccharides

Ex: Glycogen-Formed by combining multiple glucose molecules